

REMARKS

Claims 77 to 106, 108 to 139 are pending in this application. Reconsideration and allowance are respectfully requested.

Interview Summary:

Applicant's representative had an in-person interview with the Examiner regarding this case on January 26, 2006. The Examiner opined that the declaration submitted in the previous Amendment was insufficient as while the Declaration showed a number of examples within the scope of the claims, the Declaration did not expressly and explicitly support the ranges of components recited in the claims.
this Application.

Applicants had earlier submitted an affidavit

Rejections over Cited Art

Pending claims 77-106 and 108-139 stand rejected in view of USP 6527622, which issued from an application filed on January 22, 2002, either alone or in view of USP 6461227 or published application 2002/0076932. USP 6527622 was filed on January 22, 2002, three days before the filing of the instant application. Attached is a Declaration under 37 CFR 1.131 of inventor Robert J. Small, showing conception and reduction to practice prior to January 21, 2002, which is before the filing of the primary reference in the Examiner's rejection. Applicants diligently acted between the date prior to January 21, 2002 to the actual filing date of January 25, 2002 to prepare and file the instant application. Attached to this Declaration is a draft patent application which is substantially identical to the instant application as filed. For the Examiner's convenience, a "red-line" copy comparing the draft application which accompanies the declaration to the published application is provided, so the Examiner can readily see what matter was added to the draft to make the filed application.

Regarding the timeliness of the filings, Applicants note that Applicants had received an Office Action on the merits which was dated April 29, 2003, and Applicants submitted a Declaration on October 14, 2003 to overcome the USP 6527622 reference. In an Office Action dated December 18, 2003 the Examiner stated that the Declaration was insufficient to support the claims, but was sufficient only to support a point within the claims. A final rejection was sent on

December 18, 2003, after which Applicants filed a Request for Continued Examination on June 16, 2004.

The June 16, 2004 Request for Continued Examination was accompanied by a second Declaration intending to overcome the USP 6527622 reference. In an Office Action dated September 29, 2004 the Examiner opined that the second submitted Declaration also was not sufficient, and again submitted the same rejections over the cited art as had been previously presented. Applicants filed an Amendment dated March 29, 2005, attempting to change the composition claims to be method claims. The Examiner in an Office Action dated June 9, 2005, stated that since an office action on the merits had been issued, Applicants were bound by the constructive election by the original prosecution, and the Examiner did not examine the claims as amended. Applicants submitted another Amendment dated July 8, 2005 reverting the claims from process to apparatus claims, and argued the art did not make the claims as amended unpatentable. The Examiner in an Office Action dated October 3, 2005 agreed that most rejections under one or more of USP 6328774, USP 6332831, USP 6461227, USP 5993686, USP 6063306, and published applications 2003/0060135 and 2002/0125460, which were presented in previous Office Action dated September 9, 2004, were overcome, and these rejections were withdrawn by the Examiner. Nevertheless, the Examiner still maintained that the pending claims 77-106, 108-120, 122 and 125-139 stand rejected as obvious over USP 6,527,622 alone or in view of USP 6,461,227 and published application 2002/0076932.

Applicants submitted an amendment after final rejection dated December 5, 2005, providing yet another Declaration to overcome the reference. The Examiner concluded the amendments to two dependent claims constituted new issues and would not enter the amendment.

The Examiner has provided a number of rejections based on the cited art, most of which have been overcome. The Examiner was under notice that the Applicants have three times attempted by Declarations to swear behind the primary reference, which has an effective date three days before the filing date of this application. The Examiner should be readily able to ascertain that the attached Declaration having a date greater than 4 days before the filing date is substantially the same as the specification as filed. Applicants believe this Declaration removes the primary reference, and that all claims are therefore allowable.

Amendments to claims.

The only amendments to claims are made in response to 35 USC 112 rejections made by the Examiner. Claims 90, 91, and 106 are multiply dependent claims and were amended to recite the claims depend from “any one of” the ensuing claims in response to the Examiner’s objection.

Claims 89 and 105 were amended to remove the term “carbine” in response to the Examiner’s rejection.

Claim 94 was amended to eliminate the phrase “selected from a group consisting of a pH from about pH 1 to less than pH 2 and a pH” in response to the Examiner’s rejection.

Claims 112 and 118 were amended to remove an optional ingredient.

No new matter or issues are believed to be presented by these amendments.

Rejections under 35 USC 112.

The Examiner has rejected a number of independent claims under 35 USC 112, first paragraph, stating the subject matter was not described in such a way to reasonably convey that the Applicants had possession of the invention. Applicants traverse as discussed below:

Claim 94: The Examiner states the pH limitations are new matter because the specification does not literally define these ranges for the broad composition, citing section [0011] of the specification. Section [0011] recites a pH of about 5 to 10 or about 1 to about 4. Claim 94 has been amended to delete the offending language. Given original dependent claim 8, reciting a pH range of about 5 to about 10, Applicants believe this is not a new issue needing further searching.

Regarding amended claim 93

The Examiner effectively requires the pH range in claim 94 be amended to delete the lower pH range. Example O (at [0103]) recites a pH of 1.2 to 1.8 for polishing Pt and an appropriate polishing selectivity of greater than 1:1. For low pH examples used to polish platinum, only a pH of 1.2 to 1.8 in Example O exhibits the appropriate selectivity, and amended claim 93 is intended to be a picture claim reciting this example.

Regarding claims 112 and 118: The Examiner states the optional electrolyte component is new matter because the component was never literally defined for use in the broad composition but is supported only for Example 0 in combination with Pt. Claims 112 and 118 have been amended to delete this optional component.

Claims 122-125 and 128:

These claims depend from claim 118 and recite individual suspension agents, in particular a material having a CAS number of CAS#1344-28-1 (Alumina-C); a hydrous sodium lithium magnesium silicate; ammonium polymethacrylate; colloidal silica; and succinic acid, respectively. The Examiner states the particular suspension agents are new matter because the specification does not literally define these particular suspension agents for the broad composition. Applicants respectfully traverse, as discussed specifically below.

Claim 122: Applicants respectfully traverse. Claim 122 recites use of Alumina-C in combination in a slurry comprising an alumina abrasive. Applicants note that the combination of “suspension agents” as a general class are supported for the broad composition (as in original claim 11 and in claim 112), as is wherein the suspension agent comprises another abrasive (as in original claim 12 and in claim 117). CAS#1344-28-1 (Alumina-C) recited in claim 122 is supported. The specification states at [0049] that “For example, some Ir polishing compositions comprise ... a second abrasive as a suspension agent. By way of example, in some Ir-polishing compositions the second abrasive may be Alumina-C.” The invention of a combination having a second abrasive which functions as a suspension agent is supported, but the Examiner contends that Alumina-C is disclosed only for a particular combination described in Example E. That is, The Examiner is limiting the invention to the examples provided, in clear contravention of the statement in paragraph [0144] that it is not intended that the scope of the invention be limited to the specific embodiments described. The specification states in paragraph [0049] that Alumina –C “is used to keep the slurry in suspension for a suitable and preferably long period.” The specification discloses the invention to one of ordinary skill in the art, and one of ordinary skill in the art would realize that such a property of increased slurry stability would be useful for all of the polishing slurries. Additionally, combinations of alumina abrasives are generally disclosed in for example paragraphs [0010] and [0012]. Applicants respectfully traverse this rejection.

Claim 123: Applicants respectfully traverse. Claim 123 recites a hydrous sodium lithium magnesium silicate. Similar to above, this material in paragraph [0055] is described as a second abrasive useful as a suspension agent, and the use of a second abrasive for a suspension agent is clearly disclosed for the broad composition. The specification discloses the invention to one of ordinary skill in the art, and one of ordinary skill in the art would realize that

such a suspension agent would be useful not only for polishing Ir as in example F, but for all of the polishing slurries.

Claim 124: Applicants respectfully traverse. Claim 124 recites an ammonium polymethacrylate. This material in paragraph [0058] is described as a surfactant useful as a suspension agent, and the use of a surfactant for a suspension agent is clearly disclosed for the broad composition (e.g., as in claim 126). This is the only surfactant specifically disclosed in the specification. The specification discloses the invention to one of ordinary skill in the art, and one of ordinary skill in the art would realize that a teaching that a surfactant is useful as a suspension agent, and the only example of a surfactant so used would not be limited to the specific example in which it was used.

Claim 125: Applicants respectfully traverse. Claim 125 recites colloidal silica used as a suspension agent in a slurry having an alumina abrasive. This colloidal silica in paragraph [0061] is described as having “advantageous properties in terms of particle size and contribution to composition suspension and stability” so as to be useful as a suspension agent. The invention of a combination having a second abrasive which functions as a suspension agent is supported. Combinations of alumina and silica are generally supported, as for example in paragraph [0010]. There is nothing which would suggest to one of ordinary skill in the art that the advantageous particle size properties of colloidal silica which promote slurry stability in the example where Ir was polished would not be useful in a slurry where another noble metal is polished, particularly when the specification states generally that alumina and silica combinations are useful. The Examiner is limiting the invention to the examples provided, in clear contravention of the statement in paragraph [0144] that it is not intended that the scope of the invention be limited to the specific embodiments described.

Claim 128: Applicants respectfully traverse. Claim 128 recites succinic acid used as a suspension agent in a slurry having an alumina abrasive. The specification discloses use of organic acids as suspension agents for the broad compositions. Paragraph [0066] states this example contained “an organic acid as a suspension agent”, and “in one embodiment, the organic acid is succinic acid.” The specification goes on to say that in alternative embodiments other soluble organic acids can be used. The specification does not say, as the Examiner is reading it, that “if the composition is as described in example J and is used for polishing Ir, then succinic acid will be a useful suspension agent.” One of ordinary skill in the

art would realize that a teaching that a organic acids are useful suspension agents for the broad composition, and that specific organic acid (succinic acid) is useful as a suspension agent in a composition contacting Ir, and that in alternative embodiments other organic acids can be used in the same composition contacting Ir, would mean the organic acid used in the particular example would not be limited to the specific example in which it was used. The Examiner is limiting the invention to the examples provided, in clear contravention of the statement in paragraph [0144] that it is not intended that the scope of the invention be limited to the specific embodiments described.

Regarding claim 139:

The Examiner rejects claim 139 for new matter, stating the specification never literally defines the phrase “about 1:1.” Applicants traverse. Claim 139 recites in pertinent part “wherein the selectivity of the composition for polishing the noble metal-containing material over polishing the dielectric material is about 1:1.” The specification in paragraph [0007] introduces the selectivity of the composition “in terms of removal of metal relative to the removal of surrounding material or dielectric. The specification in paragraph [0008] states “Once a metal feature is substantially coplanar with surrounding material ... preferably, the selectivity ratio of the CMP composition ... is close to 1:1, such that dishing and erosion of the metal feature and the surrounding material is avoided.” Applicants contend the teaching of a selectivity “close to 1:1” in paragraph [0007] is adequate support for the recitation of a selectivity of “about 1:1” as recited in claim 39.

Regarding claims 89 and 105:

Claims 89 and 105 stand rejected under 35 USC 112, second paragraph, as the term “carbide” is indefinite. The claims have been amended to make this rejection moot.

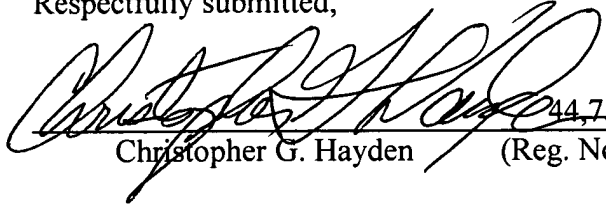
Regarding claims 90, 91, and 106

Claims 90, 91, and 106 were objected to for not explicitly stating the claims depend from any one of the enumerated claims. The claims were amended as suggested by the Examiner.

No fee is believed necessary relating to this response – however, if any additional fees are deemed necessary for any reason, the Office is authorized to charge them to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310.

Respectfully submitted,

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